

Time to Rethink Some Aspects of Agriculture®

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INTRODUCTION

As a long serving accredited GROWSAFE® (New Zealand Agrichemical Education Trust, PO Box 10323, Wellington) trainer I have become aware of how useful it is to remind agrichemical users to check out their basic operation methods occasionally. This presentation offers a few suggestions to help improve user safety. “Read the Label” is also fundamental advice, but this is becoming more relevant at present in New Zealand due to current legislation changes. It is interesting to note that these changes are part of a United Nations initiative to harmonise classification and labelling of chemicals globally. GROWSAFE® is the name synonymous with agrichemical training and education in New Zealand.

A FEW SUGGESTIONS

A simple but realistic suggestion for all agricultural users is to “stop and rethink what you are doing every now and again.” We can become creatures of habit and potentially complacent when undertaking common tasks. I suggest you physically stop, rethink, and/or analyse your tasks when using agrichemicals. Check to ensure you are following best practice. Stop and rethink together with your staff, if that is applicable. A critical analysis from the outside can often spot a fault or area for improvement, which together you can rectify. Under the Health and Safety in Employment Act (1992) in New Zealand employers, with the support of employees, are required to identify hazards and then develop procedures to eliminate, isolate, or minimize them. This basic way of thinking can be easily transferred to the principal of “stop and rethink what you are doing every now and again.”

The majority of us use poly-vinyl-chloride (PVC) gloves when handling agrichemicals. I recommend you change to wearing nitrile gloves. Nitrile gloves are thinner and therefore will allow more dexterity. There is a misconception that they will be weaker because they are thinner, where in fact nitrile gloves are still physically strong and generally chemically superior to PVC. Take for example paint and varnish removers and a solvent such as xylene (which is found in some emulsifiable concentrates). Chemically these fluids have minor to moderate effects on nitrile but have pronounced effects on PVC gloves. When describing general physical performance, nitrile can outperform PVC.

Many of us keep our gloves for too long. Be aware that they have a limited lifespan from both contamination and degeneration over time. I recommend that you consider replacing them more regularly than perhaps you have done in the past. Many users still apply agrichemicals when wearing everyday clothing. I believe this is foolhardy, because in our society we are reluctant to take our everyday clothing off — even if agrichemicals are spilt on them! Wearing overalls when working with any agrichemical is the obvious solution. If the overalls become contaminated they can easily be removed and the user still has everyday clothes on. Swallowing and inhalation are two obvious routes of entry into the body. However, the majority of agrichemical poisoning cases arises from skin absorption. Users with wet

contaminated clothing may be unaware that the agrichemical on the clothing can be absorbed into the body. Wearing overalls instead of everyday clothing can reduce the risk.

I am seeing an increasing number of full-length waterproof aprons being worn at mixing time. They are quick and easy to put on, especially when kept within easy access to the mixing site. Remember you are dealing with the concentrate at mixing time so extra care is needed to keep it off your clothing and skin. A useful tip is to write "inside" and "outside" on the appropriate sides of the apron to keep potential residue away from your overalls.

I believe not enough users protect their eyes properly at mixing time. As well as being sensitive and easily damaged, the eye is very absorbent. Agrichemical can enter the body approximately twelve times faster through the eye than through skin on the forearm. The simple common sense method is to have safety glasses, goggles, or a face shield readily available at mixing time and ensure staff always use them.

READ THE LABEL

The fundamental advice I can give any agrichemical user is to "Read the Label." But by this I mean read it properly! Too many users only search out the amount of chemical to add to the tank and forget the rest. I strongly encourage users to regularly read the other information on the label, taking particular note of the warnings and precautions described. This is a simple but important message for both you and your staff.

Labels are presently changing in New Zealand, thus there is even more reason to "Read the Label" properly. Under the Hazardous Substances and New Organisms Act 1996 (HSNO, 1996), hazardous substances (which include agrichemicals) have been individually classified in accordance with each of their hazardous properties. This HSNO system of classification is based on the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). The United Nations Economic and Social Council (ECOSOC) published this in late 2003. The GHS is designed to make available a globally harmonized hazard classification and compatible labelling system, including material safety data sheets and easily understandable symbols. New Zealand is one of the first countries in the world to adopt GHS.

In the past an agrichemical had just one classification, but now the new labels will list a number of hazardous properties. The hazard classifications are described with numbers and letters, and these will appear on the new labels. Alongside this we can expect to see a written description of these hazards in plain English. It comes as a surprise to most of us just how many hazards have been identified in the agrichemicals we use. For example the Syngenta product Actara® (Syngenta Group Company, Syngenta Crop Protection Ltd, Auckland) which contains 250g/kg thiamethoxam in the form of a water-soluble granule for the control of scale on kiwifruit (*Actinidia*) has the following HSNO classifications written on the new label: 6.1E, 6.4A, 6.9B, 9.1B, 9.3C, 9.4A. The following warning is then listed:

- May be harmful if swallowed
- May cause eye irritation
- May cause target organ damage through repeated oral exposure
- Toxic to aquatic life
- Toxic to terrestrial vertebrates
- Toxic to terrestrial invertebrates. Toxic to bees.

These warnings match the HSNO classifications as listed above, for instance the 6.4A classification identifies that this particular hazardous substance “may cause eye irritation” and 9.1B classification identifies “toxic to aquatic life”.

The first newly written labels are only now appearing on the market. Be aware that wording may differ between companies, which hasn't always been the case in the past, but that provides even more reason to “Read the Label” completely before use. And expect to see other differences on the new labels. For instance pictograms may appear. We are used to seeing international symbols such as a flame signifying “Flammable Liquid” and skull and crossbones signifying “Toxic.” One new symbol signifies “Target Organ,” meaning that hazardous substance may cause damage to a target organ such as heart, liver, kidneys or lungs. A new pictogram showing a dead fish and tree signifies “ecotoxic.” Under the HSNO Act we can expect to have a greater awareness of environmental damage from hazardous substances and stricter controls to prevent such damage than we have had in the past. Also expect to see more references on the label than in the past to a range of items such as record keeping, re-entry times, approved handler requirements, and the code of practice Management of Agrichemicals (New Zealand Standard 8409).

I have only touched on the changes being brought about by the HSNO Act, but no matter how complicated they are the simple message still remains — “Read the Label” completely before use.

GROWSAFE®

In this country the New Zealand Agrichemical Education Trust (NZAET) has developed and maintains education and training in the safe, effective and responsible use of agrichemicals, under the banner of GROWSAFE®. GROWSAFE® trainers operate nationwide, providing training to agrichemical users – from basic concepts such as reading the label through to more complex changes arising from the HSNO Act.

LITERATURE CITED

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